



briefing notes - road safety issues

Northland Region

New Zealand Transport Agency has prepared this road safety issues report. It is based on reported crash data and trends for the 2004–2008 period.

The intent of the report is to highlight the key road safety issues and be a resource to identify possible ways to reduce the number of road deaths and injuries in the Northland Region.

This report is the tenth road safety report for the Northland Region. All the material unless otherwise stated in this report applies to both State Highways and local roads.

In each new report one year's data is added to a five year block and the oldest dropped so it is unlikely that the core issues would change radically from report to report.

The issues chosen for this report are drawn from either the most common crash types, those that appear over-represented or those with high social cost (high numbers of fatal and serious crashes mainly).

We have included a brief overview of crashes in the region.

We encourage Northland Regional Council staff to use their free access to the Ministry of Transport's Crash Analysis System (CAS) to delve deeper into the highlighted issues. All data and maps in this note are from CAS.

Major road safety issues *

Northland Region

Bends

Alcohol

Speed

Road factors and roadside hazards

Nationally *

Speed

Alcohol

Failure to give way

Restraints

2008 road trauma

Casualties

Northland Region

Deaths

29

Serious casualties

131

Minor casualties

530

Crashes

Northland Region

Fatal crashes

27

Serious injury crashes

106

Minor injury crashes

356

Non-injury crashes

1056

* not in any specific order of priority

Overview

In 2008 on local roads in Northland Region there were 276 injury crashes and 632 non-injury crashes. In addition there were 214 injury crashes and 424 non-injury crashes on State Highways both as reported by the New Zealand Police.

The table below shows the number of injuries resulting from the 490 injury crashes by rural or urban areas (rural is defined as an area with a speed limit of 80km/h or more).

Casualties by urban / rural 2008				
	Fatalities	Serious injuries	Minor injuries	Total
Rural	28	94	352	474
Urban	1	37	179	217
Total	29	131	531	691

Over the past decade fatal and serious crashes have remained relatively stable while minor injury crashes have increased.

The most likely cause of this is an improvement in the Police reporting rate around 2003.

In 2008 minor injury crashes fell sharply while fatalities and to a lesser extent serious crashes did not, certainly NZTA would hope that this is a real drop rather than just a drop in reporting.

Crash trends in Northland Region				
Year	Fatal Crashes	Serious Crashes	Minor Crashes	Total Crashes
1999	27	94	172	293
2000	35	85	159	279
2001	23	92	161	276
2002	31	100	225	356
2003	31	90	390	511
2004	23	121	389	533
2005	22	108	366	496
2006	30	100	399	529
2007	28	116	408	552
2008	27	106	357	490

Main crash characteristics

Crash type or contributory cause 2004 to 2008	Percentage fatal and serious crashes of this type or contributory cause	Percentage all injury crashes of this type or contributory cause
Alcohol	30	21
Too fast	30	25
At bends	54	50
Roadside object hit	56	54
Road factors	18	20

Further information about the 1382 injury and 3138 non-injury crashes on **local** roads in Northland Region 2004 to 2008:

- 54 deaths, 356 serious injuries and 1485 minor injuries
- Worst month December, best April
- Worst day Saturday, best Sunday
- 27 percent on wet roads
- 31 percent at night
- 32 percent at intersections
- 5093 roadside objects struck
- Most common at fault driver age group in injury crashes 15 to 19 years (24 percent of all at fault drivers)
- Social cost of crashes in 2008 \$132.4m

Further information about the 1218 injury and 1993 non-injury crashes on **State Highways** in Northland Region 2004 to 2008:

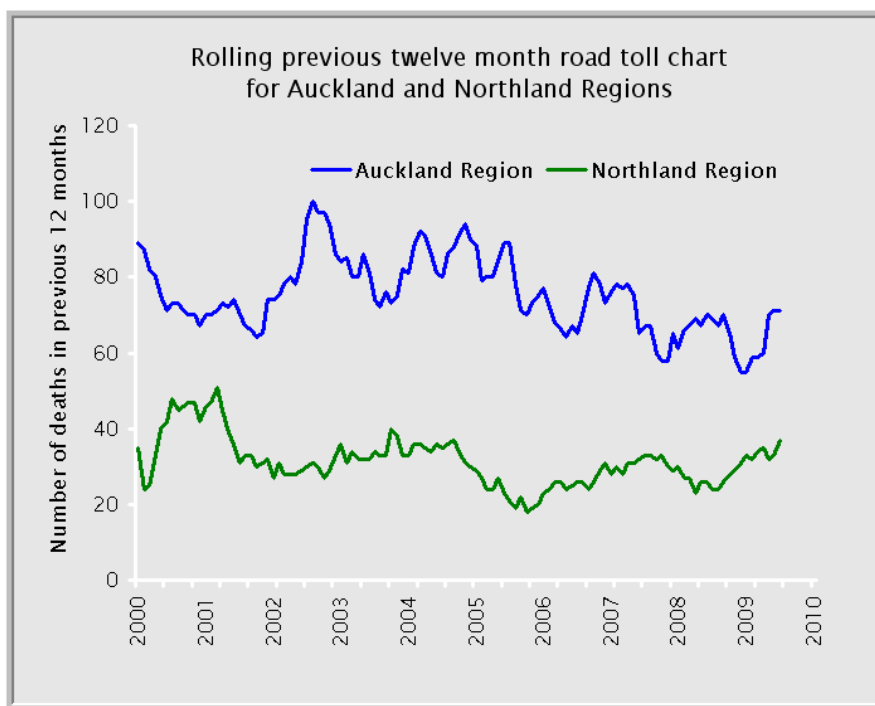
- 88 deaths, 346 serious injuries and 1397 minor injuries
- Worst month December, best July
- Worst day Friday, best Monday
- 33 percent on wet roads
- 32 percent at night
- 25 percent at intersections
- 3714 roadside objects struck
- Most common at fault driver age group in injury crashes 15 to 19 years (16 percent of all at fault drivers)
- Social cost of crashes in 2008 \$142.4m

Summary

Road safety issues for the Northland region. Issues from each of the local body or State Highway briefing notes 2004 to 2007

Briefing note title	Bends – lost control / head on	Road factors and roadside hazards	Speed	Alcohol	Wet roads
Far North District	✓	✓	✓	✓	
Kaipara District	✓	✓		✓	
Whangarei District	✓	✓		✓	✓
Northland State Highways	✓	✓	✓	✓	
Northland Region	✓	✓	✓	✓	

Fatality trends



The chart on the left illustrates the fatality trends for the last decade for Auckland and Northland.

This chart calculates the road toll for each of the previous twelve months, in this way emerging trends can be shown more quickly.

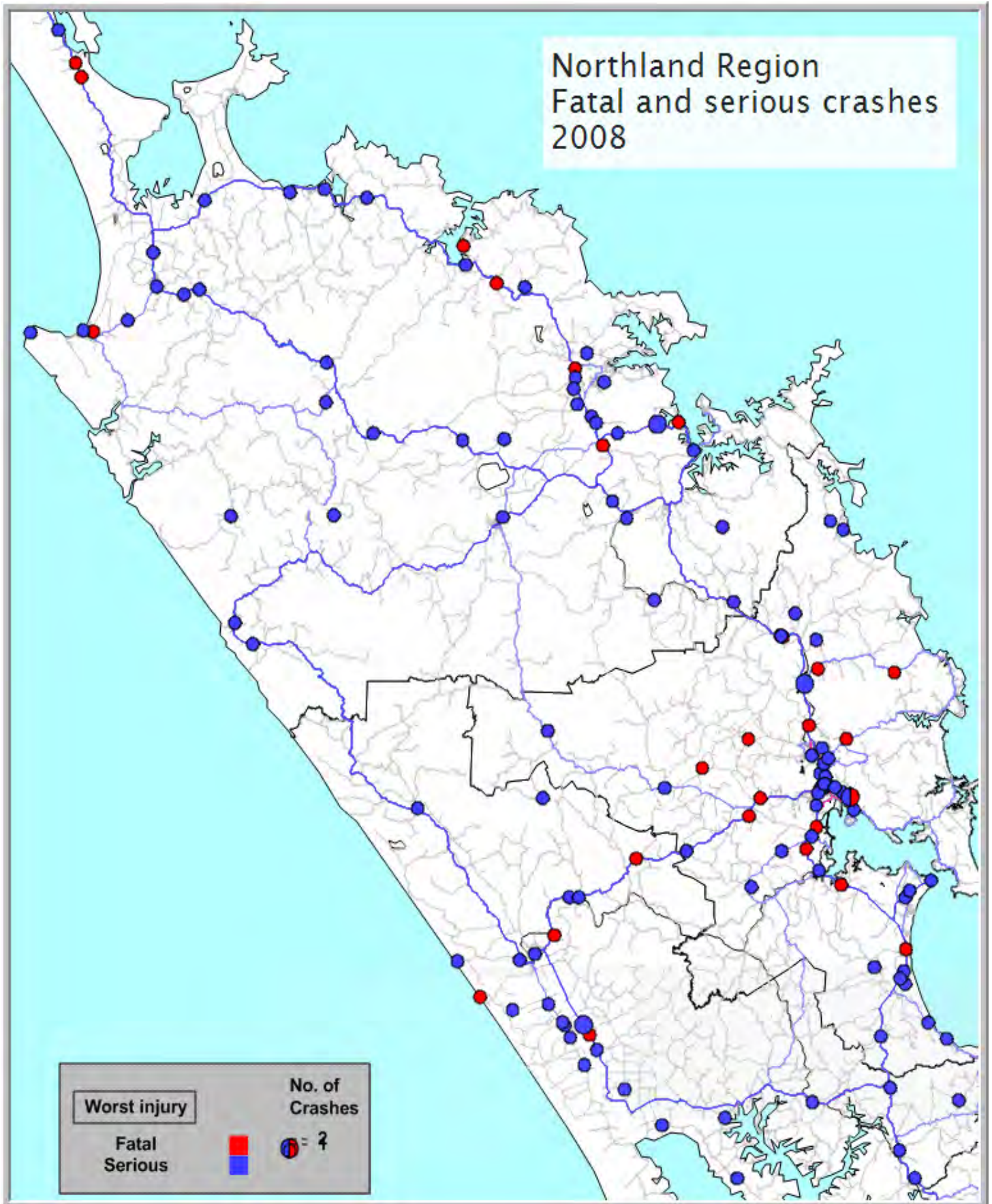
(The chart is up to date to the end of June 2009).

As can be seen the road toll slowly fell in Northland to mid 2005 and has been very gradually rising ever since. In contrast the corresponding toll in Auckland although fluctuating is generally trending down.

Traffic volume trends

Traffic volumes in million vehicle km travelled per year on local roads

Local body	2003/2004	2007/2008
Far North District	156m	248m
Kaipara District	81m	92m
Whangarei District	393m	419m



Bend - loss of control or head on

Between 2004 and 2008 half of all injury crashes in the Northland Region were loss of control or head on bends.

These crashes resulted in 80 fatalities, 396 serious injuries and 1444 minor injuries.

Crashes at bends 2004 to 2008				
Crash year	Fatal crashes	Serious crashes	Minor crashes	Total
2004	15	62	194	271
2005	12	58	157	227
2006	17	53	206	276
2007	13	65	206	284
2008	13	59	159	231
Total	70	297	922	1289

After drivers lose control their vehicles often crash into roadside hazards such as ditches, banks, poles or trees. Hitting these objects can result in a relatively minor off-road event turning into something far more serious.

The most common roadside hazards struck in injury loss of control or head on crashes on bends in the Northland Region were cliffs or banks (298), trees (188), fences (231), posts or poles (88) and ditches (269) from a total of 1314 objects struck.

Main characteristics of injury lost control or head on crashes at bends	
Crash characteristic	Percentage of crashes
Single vehicle	78
Alcohol	29
Excessive speed for the conditions	40
Road factors	26
Poor handling	43
Rural road	85
Wet road	36
Night time	40

Further information about the 699 injury loss of control or head on crashes on bends on **local** roads in Northland Region 2004 to 2008:

- 30 deaths, 202 serious injuries and 777 minor injuries
- 71 percent of at fault drivers were male
- Most common crash type "loss of control turning right" (319 crashes)
- Most common at fault driver age group 15 to 19 years (27 percent of all at fault drivers)
- 35 percent of crashes involved alcohol
- 44 percent of crashes involved speed too fast for the conditions
- Worst month December, best May
- Worst day Saturday, best Thursday
- Worst three hour time period 6pm till 9pm

Further information about the 590 injury loss of control or head on crashes on bends on **State Highways** in Northland Region 2004 to 2008:

- 50 deaths, 194 serious injuries and 667 minor injuries
- 68 percent of at fault drivers were male
- Most common crash type "loss of control turning right" (272 crashes)
- Most common at fault driver age group 15 to 19 years (18 percent of at fault drivers)
- 22 percent of crashes involved alcohol
- 35 percent of crashes involved speed too fast for the conditions
- Worst month January, best June
- Worst day Saturday, best Monday
- Worst three hour time period 3pm till 6pm

Alcohol

Alcohol affects the way people drive. Studies show that the risk of being involved in a crash increases rapidly as a driver’s blood alcohol level rises.

A driver over the legal limit (80mg of alcohol per 100ml of blood) is sixteen times more likely to be involved in a fatal crash than a sober driver.

Contrary to popular opinion, people with high blood alcohol levels are more likely to be injured or killed in a crash than a sober driver in the same crash, and if injured, they are also more likely to encounter complications in their recovery.

In New Zealand for the 12 months to December 2008, alcohol-affected drivers contributed to 34 percent of all fatal crashes (the same as 2007) and 15 percent of all injury crashes (the same as 2007).

In Northland Region, alcohol was a factor in 21 percent of injury crashes in 2008.

Number of alcohol related injury crashes			
Crash year	Open road	Urban road	Total
2004	77	30	107
2005	69	34	103
2006	82	36	118
2007	75	39	114
2008	66	32	98
Total	369	171	540

(Open road is classified as any area with a speed limit of 80km/hr or more).

From the beginning of 2007 NZTA has been adding driver factor codes to all non-injury crashes for the northern district.

This will allow the Police and other agencies to target alcohol related crashes more quickly and with even more geographic accuracy than ever before.

In 2008 there were 105 non-injury alcohol related crashes reported by the Police in the Northland Region.

The key crash locations of alcohol related crashes occurring between 2004 and 2008 are shown on the map on the following page.

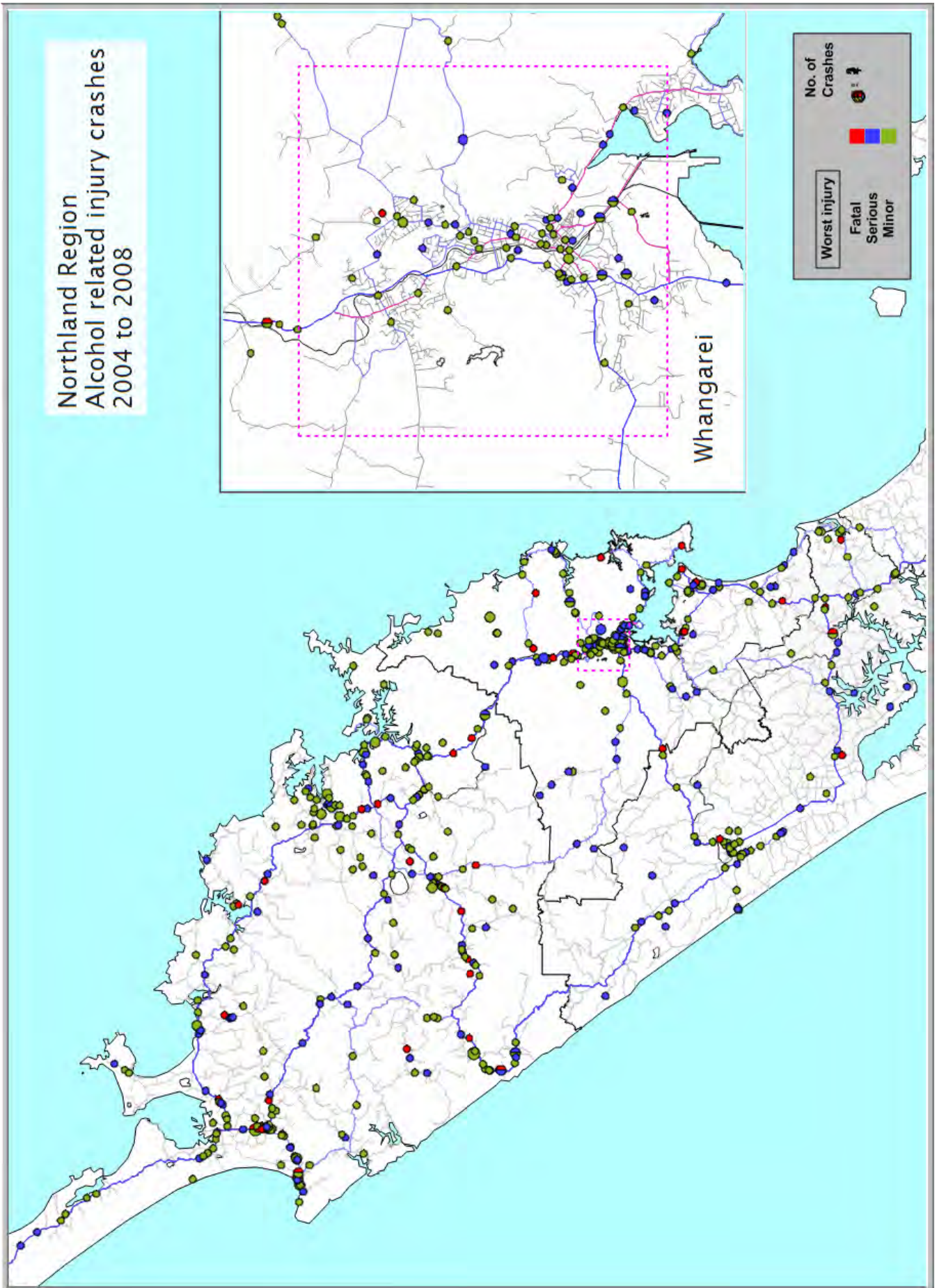
There are significant concentrations of alcohol related injury crashes around Whangarei, Kaitaia and Ahipara, near Dargaville, around the Bay of Islands communities and especially (given the lower traffic volumes) along the northern parts of State Highway 12.

Further information about the 345 alcohol related injury crashes in Northland Region on **local** roads 2004 to 2008:

- 24 deaths, 119 serious injuries and 359 minor injuries
- 77 percent of at fault drivers were male
- Most common crash type “loss of control at a bend” (246 crashes)
- 17 percent at intersections
- 39 percent urban
- 24 percent wet road
- 69 percent night time
- Worst three hour time period midnight till 3am
- Worst month February, best July
- Worst day Saturday, best Monday

Further information about the 195 alcohol related injury crashes in Northland Region on **State Highways** 2004 to 2008:

- 29 deaths, 75 serious injuries and 188 minor injuries
- 79 percent of at fault drivers were male
- Most common crash type “loss of control at bends” (128 crashes)
- 12 percent at intersections
- 19 percent urban
- 26 percent wet road
- 71 percent night time
- Worst three hour time period 9pm till midnight
- Worst month February, best April
- Worst day Saturday, best Monday and Tuesday (equal)



Speed

Nationally, speed is one of the major contributing factors to road crashes. Reducing speeds is an important road safety goal. Excessive speed increases the likelihood of a crash occurring by reducing the time available for drivers to respond to situations and it leads to more serious injuries. Research has shown that a one km/h reduction in mean speed can produce a three percent reduction in injury crashes.

Between 2004 and 2008 25 percent of injury crashes in Northland Region involved travelling too fast for the conditions. These crashes resulted in 61 fatalities, 215 serious injuries and 730 minor injuries.

Speed related injury crashes					
Road type	2004	2005	2006	2007	2008
Rural	114	95	90	96	97
Urban	31	24	39	31	27
Total	145	119	129	127	124

Speed related crashes in CAS are not crashes where the driver was exceeding the posted speed limit (although that may be the case) but where in the opinion of the officer reporting the crash the driver was travelling too fast for the prevailing conditions.

Certainly getting the message through that the prevailing speed limit is a maximum, but not necessarily a safe speed for every bend, crest, dip or isolated development (or driver) is the key to lowering the injury rate.

Local bodies can do their part by making sure limits are reasonable, comply with the Speed Limits Rule and are adequately signposted.

Temporary speed limits at road works in particular need to be better monitored to make sure that they are reasonable and only in place when hazards exist.

The main causes contributing to speed related crashes were:

- Handling errors (48 percent of crashes)
- Alcohol (36 percent of crashes)
- General errors of judgement (15 percent of crashes)
- Being aged 15 to 24 (38 percent of all at fault drivers)

The map on the following page shows the locations of speed related crashes for the period 2004 to 2008.

Age and gender of at fault drivers in speed related injury crashes

Driver age 2004- 2008	Male	Female	Total
15-19 years *	151	50	201
20 - 24	94	44	138
25 - 29	34	11	48
30 - 39	87	35	122
40 - 49	58	15	73
50 - 59	22	7	29
60 - 69	9	2	11
70+	5	2	8
Total	464	166	630

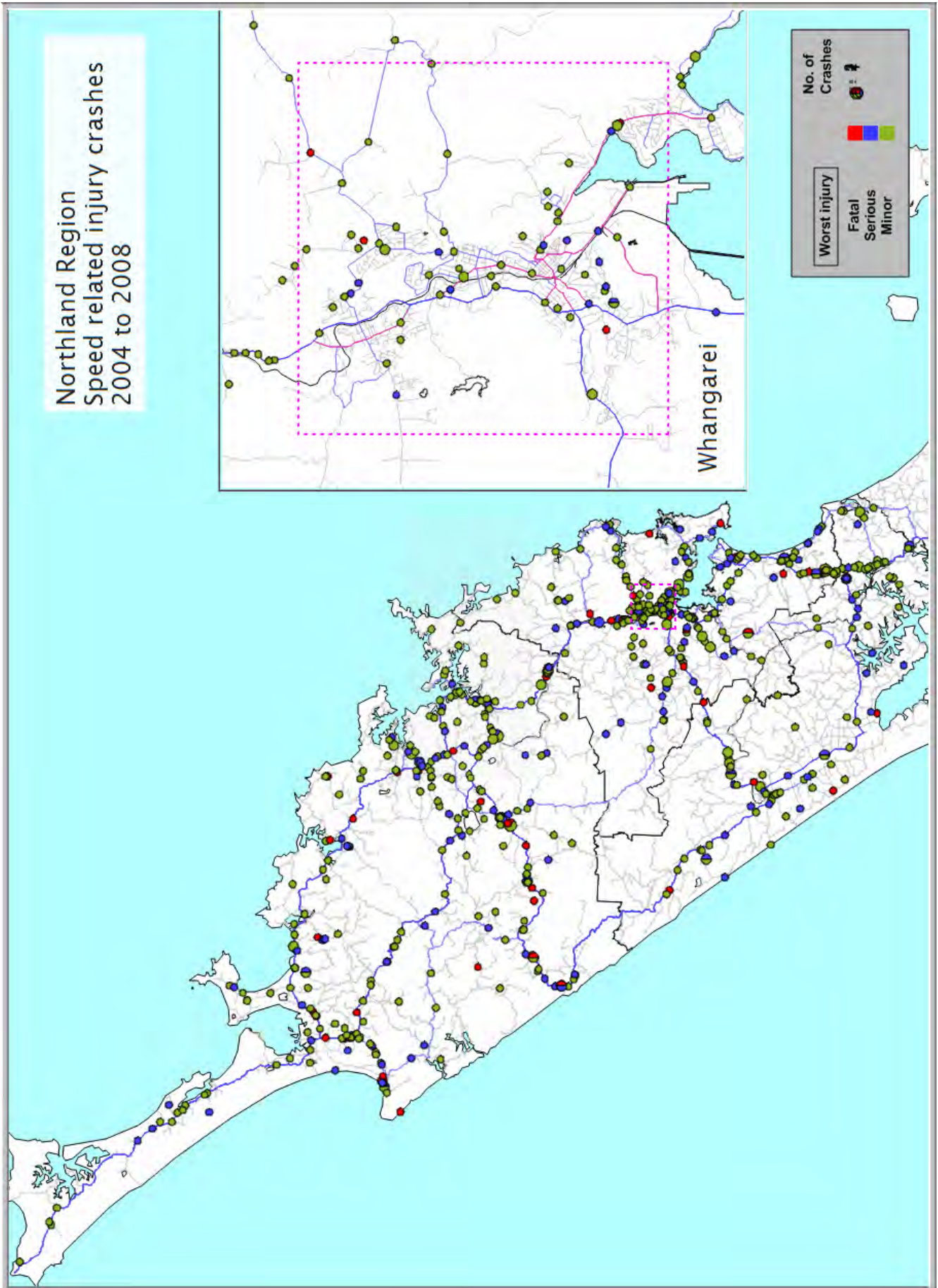
* Note age ranges are not equal

Further information about the 382 speed related injury crashes on **local** roads in Northland Region 2004 to 2008:

- 29 deaths, 124 serious injuries and 440 minor injuries
- Most common crash type “Lost control on a bend” (307 crashes)
- 85 percent mid-block
- 32 percent wet road
- 46 percent night time
- Worst month December, best May
- Worst day Saturday, best Thursday
- Worst three hour time period 6pm till 9pm

Further information about the 262 speed related injury crashes in on **State Highways** in Northland Region 2004 to 2008:

- 32 deaths, 91 serious injuries and 290 minor injuries
- Most common crash type “Lost control on bend” (209 crashes)
- 87 percent mid-block
- 45 percent wet road
- 50 percent night time
- Worst month December, best May, June and August all equal
- Worst day Saturday, best Monday
- Worst three hour time period 9pm till midnight



Road Factors - including roadside hazards

A safe road environment includes appropriate geometric design standards, good delineation, adequate surface skid resistance and a roadside free of unforgiving hazards.

In 2008 in Northland Region, “road factors” were a contributing factor in 18 percent of fatal and serious crashes and 20 percent of injury crashes.

Additionally in Northland Region between 2004 and 2008 56 percent of all fatal and serious crashes and 54 percent of injury crashes involved roadside hazards being struck.

Road factor related injury crashes					
Road type	2004	2005	2006	2007	2008
Rural	36	28	42	50	47
Urban	13	6	10	16	18
Total	49	34	52	66	65

Roadside hazards normally contribute to the overall crash outcome by increasing injury severity but can in themselves be a contributory factor in a crash.

For example occupants in an errant vehicle striking a large tree close to the road edge are likely to sustain worse injuries than if the tree was not present. If the same tree had low branches and was located at an intersection it could also contribute to a lack of visibility.

In the injury crashes in Northland Region where a roadside hazard was struck 67 people died, 386 received serious injuries and 1507 minor injuries.

The most commonly struck objects are shown below from a total of 1939 objects struck.

Type of hazard 2004 to 2008	Number of times hazard struck
Ditch	415
Cliff or bank	369
Fence	327
Tree	230
Post or pole	136

Types of road factors in injury crashes

Road factor type 2004 to 2008	Local roads	State Highways
Slippery road *	123	179
Road surface in poor condition	114	71
Road obstructed	10	6
Visibility limited	54	26
Signs or signals (needed or faulty)	6	6
Markings (needed or faulty)	4	0
Street lighting	2	0

* note that NZTA does not assume that a road that is “wet” is necessarily “slippery”. This factor is only added to CAS if the attending Police Officer specifically mentions a “slippery road”.

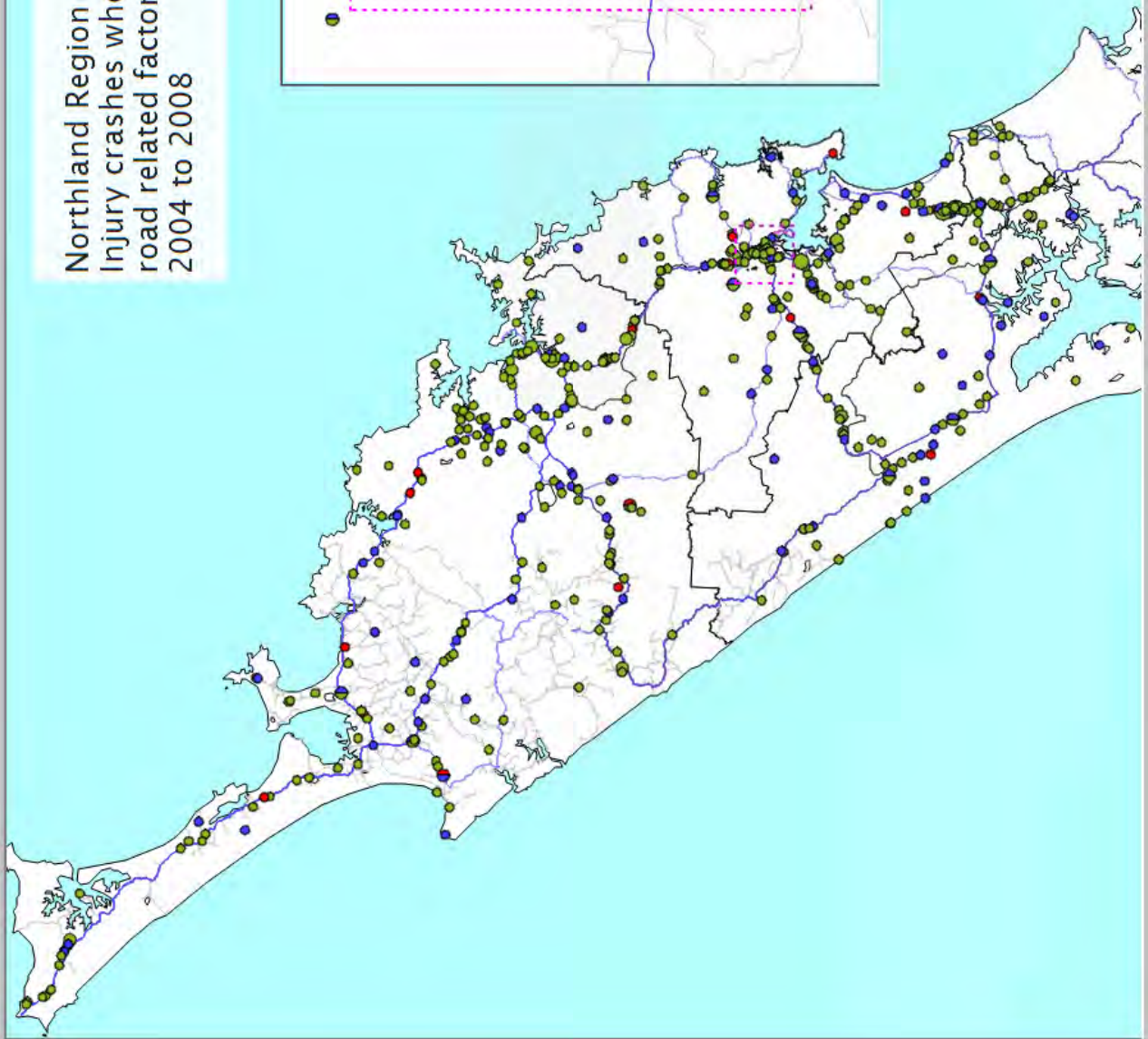
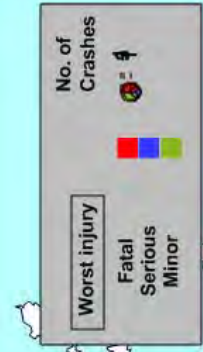
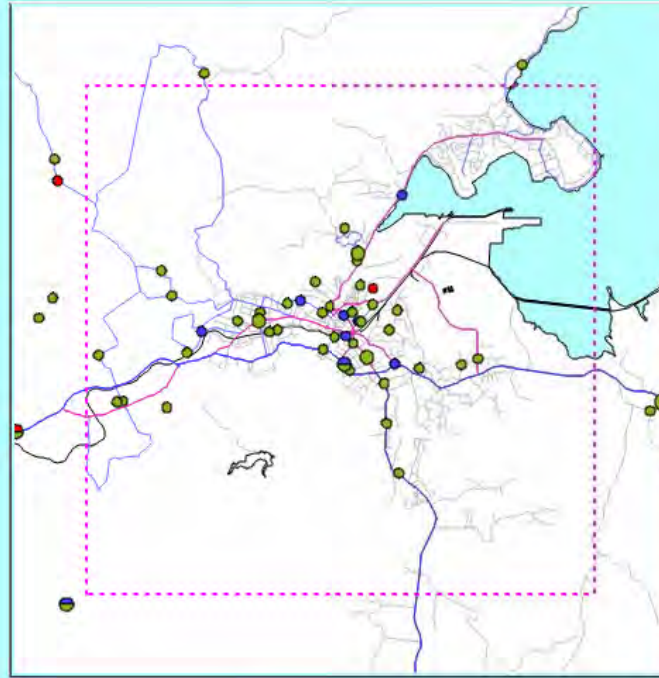
Further information about the 266 road factor related injury crashes in Northland Region on **local roads** 2004 to 2008:

- 9 deaths, 63 serious injuries and 297 minor injuries
- Most common crash type, “loss of control at bends” (174 crashes)
- 15 percent at intersections
- 24 percent urban
- 40 percent wet road
- 25 percent night time
- Worst month January, best September

Further information about the 247 road factor related injury crashes in Northland Region on **State Highways** 2004 to 2008:

- 14 deaths, 60 serious injuries and 316 minor injuries
- Most common crash type, “loss of control at bends” (162 crashes)
- 7 percent at intersections
- 9 percent urban
- 65 percent wet road
- 30 percent night time
- Worst month December, best July

Northland Region
Injury crashes where the NZ Police have included a road related factor as a contributory cause.
2004 to 2008



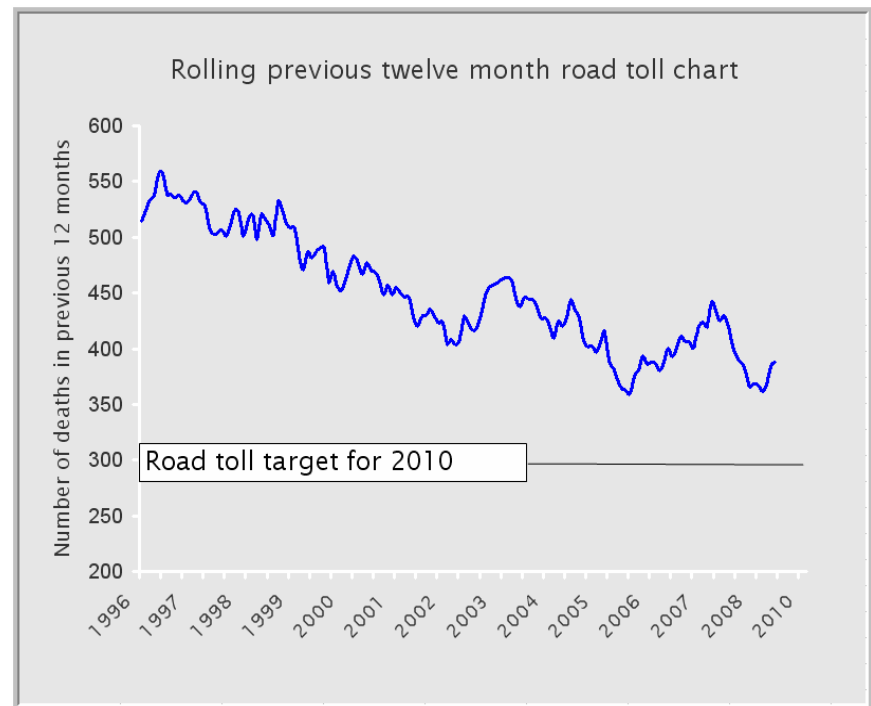
The next ten years—moving beyond Road Safety 2010

In August this year the Ministry of Transport will embark on a nationwide road safety consultation programme as it moves to formulate priorities for the next ten years.

Information will be published on their web site and we would encourage any person or group with an interest in road safety to watch the site carefully for developments. Follow this link:

<http://www.transport.govt.nz/ourwork/Land/landsafety/SaferJourneys-RoadSafetyStrategyto2020/>

The chart on the right illustrates the progress made during the life of the Road Safety 2010 strategy. Although progress has been made it would seem highly unlikely that the target of 300 or fewer fatalities will be met.



Restraints

The Ministry of Transport (MoT) conducts surveys of restraint use. Results are available for front, rear and child restraints although not all at a local authority level.

See the MoT website: <http://www.transport.govt.nz/research/safetybeltstatistics/>

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